



# Power BI Fundamentals



# Introduction

**Throughout this one-day course,** with hands-on activities and challenges, you will learn basic concepts of Power BI data modeling and designer skills. You will learn step-by-step how to create a Power BI report from scratch with visualization best practices.

At the beginning of this course, we will work with raw data and explore how to create data connections, how to clean and transform source data, and how to tackle data modeling issues in Power BI Desktop. Nowadays, Power BI is not only a powerful BI visualization tool, but it is also can be observed as ETL (Extract Transform and Load) solution, and it allows us to connect data from any kind of different sources, link them together, create metrics and optimize data structure.

After data model creation, we will discuss the process of creating visualization and review the principles of human perception concerning different available visualizations in Power BI. You will be able to create the visualization, discuss their propose, and select the appropriate one for your data and the type of questions you need to answer, and share the application with other users. The course combines theoretical concepts with demonstrations and hands-on exercises to teach the essential concepts for designing useful and effective Power Bi reporting application.

#### **COURSE OBJECTIVES AND INTENDED SKILLS**

- Build Power BI reports and dashboards.
- Analyze different visualizations available in Power BI and learn how to select the appropriate visualization/s to answer your data questions.
- Identify data types and explain how they are interpreted as visualizations.
- Create a data model, load data, and connect tables in reporting data model
- Add dimensions and measures via DAX
- > Discuss concepts of data visualization and how they are implemented in Power BI.
- Identify best practices for visualization design.
- Responsive design and customization for mobile application.
- Publishing reports and apps and sharing them with others.

#### THIS COURSE IS RECOMMENDED FOR THE FOLLOWING USER ROLES:

- Business analysts
- Data analysts
- Data Engineer
- · Business Intelligence and Reporting Professional





# **Course Modules**

# 01. INTRODUCTION

#### Objectives

- 1. Explore the parts of a Power BI Desktop and Power BI Service
- 2. Discover how to make selections and searches in an app, characterizing the different search options and color-coding for the selection states

#### 02. ADDING DATA

#### Objectives

- 1. Explore data connections
- 2. Learn about different data load aspects
- 3. Learn how to load data from a file into an app
- 4. Explore Power Query Editor

### 03. DATA TRANSFORMATION

#### Objectives

- 1. Joining tables
- 2. Create new fields in a table
- 3. Discover options to transform or add new column
- 4. Explain Count and Sum
- 5. Use transformation functions
- 6. Aggregate tables

### 04. GRAPHS AND VISUALIZATIONS

#### Objectives

- 1. Review the principles of human perception in relation to different visualizations
- 2. Identify the most appropriate visualization based on the data
- Review all the basic charts and tables in Power BI Desktop
- 4. Describe the chart and table properties
- 5. Use objects for single or multiple data selection
- 6. Usage of Filter Pane

#### Topics

- ♦ Microsoft Power BI Desktop
- Microsoft Power BI Service

#### Topics

- Import Data from CSV files in Microsoft
  Power BI Desktop
- Import Data from Excel files in Microsoft
  Power BI Desktop
- Import Data from Folders in Microsoft Power BI Desktop

#### Topics

- Design and implement basic transformation
- $\diamond \quad \text{Power Query overview} \quad$
- ◊ Basic transformation
- ◊ Create new column
- ◊ Chane data format
- ◊ Remove column
- ◊ Replace values
- ◊ Transformation steps

#### Topics

- Introduction to Visualization Section
- ◊ Bar Chart
- ◊ Line Chart
- ♦ Pie Chart
- ♦ KPI Chat
- ◊ Tables List Tables, Pivot Tables
- ◊ Using Slicers
- ◊ Visual Filters



# 05. DAX BASICS

#### Objectives

- 1. Create calculations with quick measure options
- 2. Learn basic concepts of creating measures with DAX

## 06. POWER BI SERVICE

#### Objectives

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- Describe the delivery process and learn how to publish apps
- 2. Define process for data update and notification
- Use Dashboards to combine the most important KPI and charts from different applications
- 4. Understand bookmarks and options for user collaboration and data sharing

#### Topics

- ♦ What is DAX?
- ◊ Create a New Quick Measure
- ◊ Create Calculated Measures

#### Topics

- ♦ Publishing Reports to the Power BI Service
- Pinning Visualizations to Dashboards
- ◊ Q & A
- ◊ Bookmarks



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